CHAPTER 2

GETTING STARTED

2.1 INTRODUCTION

The following sections present instructions for installing and getting started using **GRITS/STAT**. Should you encounter difficulties during this process, see TECHNICAL SUPPORT on page vi.

2.2 INSTALLING GRITS/STAT

2.2.1 Making a Backup Copy

It is strongly recommended that you make a backup copy of the **GRITS/STAT** installation diskettes prior to installation. A backup will require four formatted 1.44 MB High Density diskettes. Follow the instructions below to make a backup.

1. Get to the MS DOS prompt.

If you are using Windows 95:

- a. Hold the **<Ctrl>** and **<Esc>** keys down simultaneously. This will open the Windows 95 Start Menu.
- b. Highlight the Programs menu item on the Windows 95 Start Menu. A pop-up list of applications installed on your PC will automatically appear.
- c. From the pop-up list click the MS-DOS Prompt item.

If you are using Windows 3.1x:

- a. Double-click the program group titled Main.
- b. Double-click the MS-DOS Prompt icon.

Repeat steps 2 through 3 for each of the GRITS/STAT installation diskettes.

2. At the MS DOS prompt type the following command:

DISKCOPY A: A: <Enter>

Your computer will respond:

Insert SOURCE diskette in drive A:

Press any key to continue . . .

3. Insert the **GRITS/STAT 5.0** diskette you wish to duplicate in drive A and press **Enter>**. An image of part or all of the **GRITS/STAT 5.0** diskette is read into your PC's memory. After a few moments your PC will prompt:

Insert TARGET diskette in drive A:

Press any key to continue . . .

Insert the backup diskette in drive A and press **<Enter>**.

Depending on your PC and the diskette being duplicated it may take several passes to duplicate the diskette and you may be prompted for the source diskette more than once. When DISKCOPY is finished duplicating each diskette your PC will prompt:

Do you wish to write another duplicate of this disk (Y/N)?

Press the **N** key for No and DISKCOPY prompts:

Copy another diskette (Y/N)?

If you have more diskettes to duplicate press the Y key for Yes and go to step 2.

2.2.2 Installation Procedures

The **GRITS/STAT 5.0** installation program automatically creates a directory called \GRITS500 and a subdirectory for each **GRITS/STAT** module on a specified hard drive, and copies all the system's files into those directories. The directories installed on your hard drive and the modules placed in each subdirectory are shown in Figure 1.

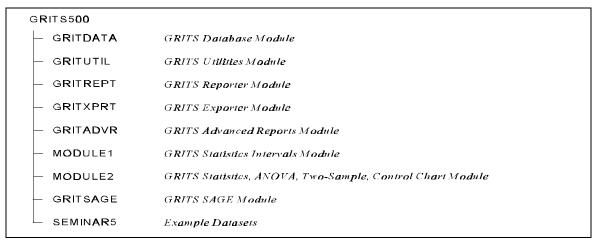


Figure 2.1. Directories installed with GRITS/STAT 5.0

To install **GRITS/STAT 5.0**, follow the procedure below.

1. Get to the MS DOS prompt.

If you are using Windows 95:

- a. Hold the **<Ctrl>** and **<Esc>** keys down simultaneously. This will open the Windows 95 Start Menu.
- b. Highlight the Programs menu item on the Windows 95 Start Menu. A pop-up list of applications installed on your PC will automatically appear.
- c. From the pop-up list click the MS-DOS Prompt item.

If you are using Windows 3.1x:

- a. Double-click the program group titled Main.
- b. Double-click the MS-DOS Prompt icon.
- 2. If you are updating from a previous version of **GRITS/STAT** make a backup of your existing **GRITS/STAT** data files. If you are not updating from a previous version of **GRITS/STAT** proceed to step 3.

GRITS/STAT stores data in five separate DBF files. If you have been using different data directories each data directory will have at least 5 DBF files.

If you have not been using different data directories your existing data resides in the

\GRITS\GRITDATA directory on your hard drive. In this case the \GRITS\GRITDATA directory is your data directory.

GRITS/STAT stores groundwater data in the following five database files:

FACILITY.DBF	Facility specific information (i.e., Facility Name, Address and Contact information)
SAMPLING.DBF	Dates of Sampling Events
PARAMS.DBF	Parameters being monitored
WELLS.DBF	Sampling Wells
GWDATA.DBF	Groundwater observations

Your data directory may also contain GSCOPE.DBF and GSWELLS.DBF. GSCOPE.DBF and GSWELLS.DBF contain datasets created in GRITS Statistics for analysis.

For each data directory use the **MS DOS BACKUP** utility to make a backup of your existing data. For detailed information on the **MS DOS BACKUP** utility consult your DOS Manual or type **HELP BACKUP <Enter>** at the DOS prompt.

Note: Each data directory may also contain files with NTX extensions. It is not necessary to include the NTX files with your backup. **GRITS/STAT** will create the NTX files when they are needed.

3. At the DOS prompt switch to the drive that you want **GRITS/STAT 5.0** installed on. To switch to a desired drive type *d*: <**Enter>** where *d* is the desired drive letter.

Example:

To install **GRITS/STAT 5.0** on drive D you must first switch to drive D. To switch to drive D type: **D: <Enter>** at the DOS prompt.

4. Insert disk 1 of the **GRITS/STAT 5.0** installation diskettes in drive A. Type **A:INSTALL <Enter>**. The screen shown below in Figure 2 will appear on your screen.



Figure 2.2. The initial **GRITS/STAT** installation screen. Note that the date of your version may be different.

- 5. To continue with the installation press **<Enter>**. If you want to abort the installation press **<F4>**. If you proceed the installation procedure will automatically build the directory tree shown in Figure 1 on your hard drive and install all modules. The installation routine will prompt you for the remaining diskettes as needed.
- 6. When the installation routine is complete type the following commands:

CD \GRITS500 <Enter>
SETDRIVE <Enter>

7. To start GRITS/STAT 5.0 type **GRITSMN <Enter>**.

2.2.3 Suggested CONFIG.SYS

GRITS/STAT requires a minimum of 580 KB of conventional memory and at least 2 MB of extended memory (XMS). Your computer's memory is configured by the settings in CONFIG.SYS. A suggested CONFIG.SYS is shown in Figure 3 below. Please note that this *is not* the only possible configuration that **GRITS/STAT** will run under. For further information consult your DOS or Windows manuals. If you have no problems running **GRITS/STAT** don't change CONFIG.SYS.

DEVICE=C:\DOS\HIMEM.SYS

DEVICE=C:\DOS\EMM386.EXE NOEMS

BUFFERS=32,0

```
DOS=HIGH,UMB
FCBS=16,0
STACKS=9,256
SHELL=C:\DOS\COMMAND.COM /E:512 /P
```

Figure 2.3. Basic CONFIG.SYS for GRITS/STAT.

2.3 WINDOWS, MENUS, AND GETTING HELP

2.3.1 Windows

Windows in **GRITS/STAT** are panels or subsections of the screen that contain a menu or text. **GRITS/STAT** windows are multi-colored and overlaid as you proceed through the system. See Chapter 3 for instructions on changing window colors. A typical **GRITS/STAT** screen is divided into several windows as shown in Figure 4.

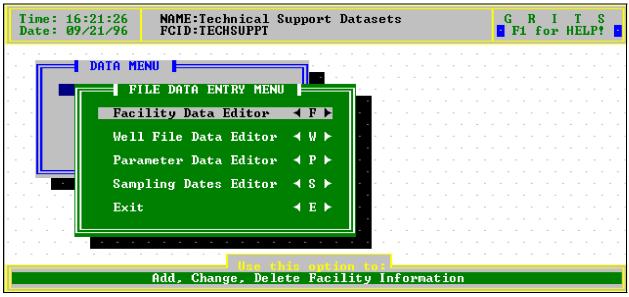


Figure 2.4. A typical GRITS/STAT 5.0 screen from GRITS Database.

2.3.1.1 Header Window

Except when the main menu is displayed, the long window across the top of the screen is divided into three sections. The time and date are displayed at the far left. When a facility has been selected, the facility name and facility ID (FCID) appear in the center window. The far right of the header window contains the reminder to press <F1> for help.

2.3.1.2 Center Window

The area in the center of the screen contains the currently active menus or windows. Although only one window will be in use at any one time, several windows may be overlapped in this center area of the screen. As you finish with each window, the one directly beneath it becomes active. You can exit or close the currently active window by highlighting the exit option and pressing **Enter**>, or by

pressing **<Esc>**.

2.3.1.3 Instruction Window

The window across the bottom of the **GRITS/STAT** screen contains relevant instructions for the current screen or an explanation of the highlighted menu item. The Main Menu item *GRITS Database* is highlighted and the instruction window reads *Add/Change/Delete Facilities*, *Wells, Parameters, Sampling Dates* indicating that this is the selection that should be made to add or change these types of information.

2.3.2 Menus

A menu is a list of choices that appears within a window. As with previous versions of **GRITS**, all modules of **GRITS/STAT** Version 5.0 are completely menu-driven. Selections from menus can be made in one of two ways: (1) use the arrow keys to move the highlight bar to the desired item and press **Enter>**, or, (2) type the letter shown in brackets next to the menu item. You can escape from a menu without making a selection and return to the previous screen by pressing the **Esc>** key.

2.3.3 Getting Help

GRITS/STAT Version 5.0 uses context-sensitive help. Help text applicable to your current position in **GRITS/STAT** is displayed in a window that appears on the screen when you press **<F1>**. Use the **<PageUp>** and **<PageDown>** keys to scroll through the help text.

2.4 STARTING GRITS/STAT 5.0

Follow the steps below to start **GRITS/STAT 5.0**.

1. Get to the MS DOS prompt.

If you are using Windows 95:

- a. Hold the **<Ctrl>** and **<Esc>** keys down simultaneously. This will open the Windows 95 Start Menu.
- b. Highlight the Programs menu item on the Windows 95 Start Menu. A pop-up list of applications installed on your PC will automatically appear.
- c. From the pop-up list click the MS-DOS Prompt item.

If you are using Windows 3.1x:

- a. Double-click the program group titled Main.
- b. Double-click the MS-DOS Prompt icon.
- 2. Switch to the hard drive that **GRITS/STAT 5.0** is installed on. To switch to another hard drive type the drive letter followed by a colon (:) and press **Enter>**.

Example:

To switch to drive C type:

C: <Enter>

3. Switch to the \GRITS500 directory. Type the following command:

CD \GRITS500 <Enter>

Note: Use the zeros for \GRITS500. Do not use the letter O.

Your DOS prompt should now look something like this:

C:\GRITS500>_

4. Type **GRITSMN <Enter>**. The GRITS/STAT Main Menu should appear on your screen as shown in Figure 5 .

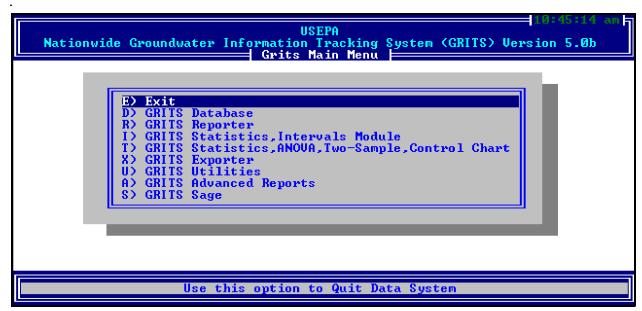


Figure 2.5. The GRITS/STAT Main Menu.

2.4.1 The GRITS/STAT Main Menu

The **GRITS/STAT** Main Menu is your access point to all modules (see Figure 5). The Main Menu lists the options that are publicly available. To execute a GRITS/STAT module use the up and down arrow keys to highlight the desired module and press **Enter**. Each module is described below.

- G R I T S Use **GRITS Database** to enter or change facility or sampling data.
- G R I T S The **GRITS Reporter** gives you the ability to print and view your data in a number of formats.
- G R I T S Statistics, Intervals Module

The **GRITS Statistics, Intervals** module contains the Parametric and Nonparametric Confidence, Tolerance and Prediction Interval Methods.

For statistical guidance see: *Addendum to The Interim Final Guidance Document* For software guidance see Chapter 5 of this manual.

G R I T S Statistics, ANOVA, Two-S a m p I e , Control Chart

The **GRITS Statistics**, **ANOVA**, **Two-Sample**, Control Chart module contains the Parametric and Nonparametric One-Way ANOVA , the CABF t-test, the Wilcoxon Rank-Sum test and the Shewart-CUSUM Control Chart methods.

For statistical guidance see: *Addendum to The Interim Final Guidance Document* For software guidance see Chapter 5 of the manual.

G R I T S Exporter is provided so that you can write selected GRITS/STAT data to ASCII files for use with other software packages.

For software guidance see Chapter 6 of this manual.

The GRITS Utilities module contains setup and file maintenance utilities. GRITS Utilities is used to create new data directories, rebuild index files, configure text printers for GRITS Reporter and GRITS Advanced Reports and select screen colors.

For software guidance see Chapter 8 of this manual.

GRITS A d v a n c e d Reports

The **GRITS Advanced Reports** module allows you to selectively query your groundwater monitoring data by entering the specific parameters, wells, and sampling dates to be reported. A filter can be set to report only values exceeding the parameter's MCL, Detection Limit, or a user a user specified limit.

For software guidance see Chapter 9 of this manual.

GRITS SAGE

The **GRITS SAGE** module is another data entry module. **GRITS SAGE** contains four spreadsheet screens for data entry and ASCII Import and Export routines.

For software guidance see Chapter 10 of this manual.

2.5 Creating a Data Directory

When **GRITS/STAT 5.0** is first installed your data directory is set to \GRITS500\SEMINAR5. The \GRITS500\SEMINAR5\ directory contains datasets used at workshops and benchmark datasets used to check the Statistics Modules output. If you start entering Facility data without first creating a data directory, your data will physically go into the \GRITS500\SEMINAR5 directory.

It is *strongly* recommended that you create a data directory outside of the \GRITS500 directory for each Facility you keep data for. If your facility data is maintained inside the \GRITS500 directory tree it risks being overwritten and lost if any subsequent updates to **GRITS/STAT** are installed. Figure 6 shows a typical \GRITS500 installation on drive C of a hard drive with two data directories outside of \GRITS500.

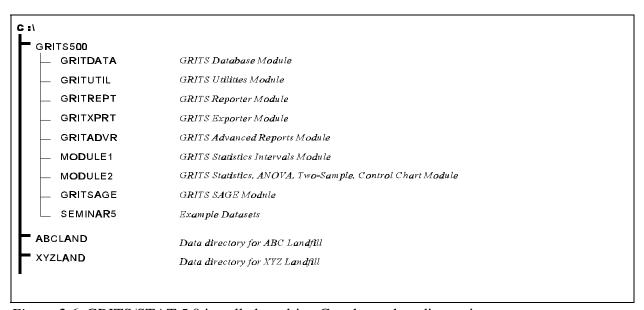


Figure 2.6. GRITS/STAT 5.0 installed on drive C and two data directories.

2.5.1 Creating a Data Directory in GRITS Utilities

Follow this procedure to create a data directory for a Facility in **GRITS Utilities**.

- 1. Start **GRITS/STAT 5.0**. (See Section 2.4)
- 2. Use the up and down arrow keys to highlight the U) GRITS Utilities menu item and press **Enter>**. The **GRITS Utilities** module should appear on your screen.

- 3. Press the C key to execute the Create Skeletons <C> option of the UTILITIES MENU.
- 4. The following prompt appears on the screen:

Enter drive where new directory will be created: C

Type the letter of the drive that you want to create the new data directory on.

5. You are now prompted:

Enter new directory name:

Type in a legal DOS Directory name and press **Enter**>.

Note: A legal DOS directory name may be up to 8 characters in length and cannot contain any of the following characters:

```
;,=+/"[]<>| \ * ` `space tab
```

Example:

To create a data directory for the ABC Landfill directory type:

ABCLAND <Enter>

6. You are now prompted:

Enter the FCID of your new facility:

The FCID is a unique identifier for the Facility. No two facilities should share the same FCID. The FCID may be up to 12 characters.

Type the FCID for your new Facility and press **Enter>**.

Example:

For the ABC Landfill an FCID: ABCLANDFILL is selected. No other Facility being monitored will be assigned ABCLANDFILL as the FCID. Type:

ABCLANDFILL <Enter>

7. The ADD A FACILITY dialog as shown in figure 7 appears on your screen.

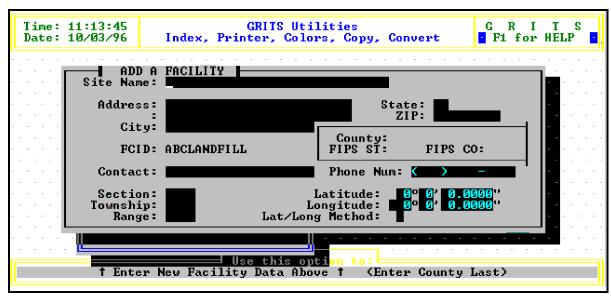


Figure 2.7. The ADD A FACILITY dialog

Enter as much information as you have on the facility in this dialog. Use the arrow keys to navigate between the fields in this dialog.

Note: While GRITS/STAT does not force you to enter data in every field it is a good idea to enter as much data as you have. Facility data appears at the top of the reports printed from the GRITS Reporter, GRITS Advanced Reporter, Statistics Intervals and the Statistics ANOVA, Two-Sample, Control Chart modules. At the very least you should enter the Site Name and the State.

Press **Page Down** to save your entries on the ADD A FACILITY dialog.

8. A pop-up screen that lists all Counties for the State your Facility (Figure 8). Use the up and down arrow keys to highlight the desired County and press **Enter>**. The County, FIPS ST and FIPS CNTY fields in the ADD A FACILITY dialog will be autofilled from your selection.

Note: Press an alphabetic letter key to jump to the first county in the list that starts with that letter. (i.e., press <**C**> to jump to the entry for CAMPBELL County in Figure 8.)

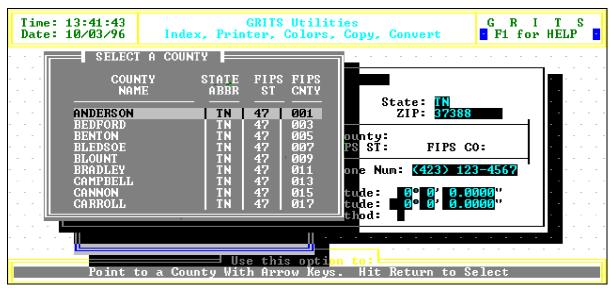


Figure 2.8. Pop-up list for all counties in the state that our Facility is in.

A new data directory now exists on your hard drive. Follow the steps in section **5.2.3** to select your newly created data directory for data entry and analysis.

2.5.2 Creating a Data Directory in GRITS SAGE

Data directories may also be created in **GRITS SAGE** from the Create Empty GRITS Databases option in the System Utilities and Maintenance menu. The Create Empty GRITS Databases menu item will create a user-specified directory on your hard drive and fill it with empty FACILITY.DBF, SAMPLING.DBF, WELLS.DBF, PARAMS.DBF and GWDATA.DBF files. Follow the steps below to create a data directory from **GRITS SAGE**.

- 1. Start **GRITS/STAT 5.0**. (See Section 2.4.)
- 2. Use the up and down arrow keys to highlight the **GRITS SAGE** module on the GRITS Main Menu and press **Enter**>. The USEPA SAGE DATA SYSTEM module should appear on your screen.
- 3. Press <1> (one) for the System Utilities and Maintenance Menu.
- 4. Press **D**> to execute the Create Empty GRITS Databases option of the System

Utilities and Maintenance menu.

5. The following prompt appears on your screen:

Directory Name:

Enter a legal DOS directory name and press **<Enter>**.

Note: A legal DOS directory name may be up to 8 characters in length and cannot contain any of the following characters:

```
;,=+/"[]<>| \ * ` `space tab
```

Example:

To create a data directory for the XYZ Landfill directory type:

C:\XYZLAND <Enter>

2.5.3 Selecting a Data Directory

If you have more than one data directory you will need to tell **GRITS/STAT 5.0** which directory you want to use for the session. Follow the steps below to set the data directory.

- 1. Start **GRITS/STAT 5.0**. (See Section 2.4).
- 2. Use the up and down arrow keys to highlight **GRITS Database** and press **Enter**>.
- 3. Press the S key to execute the Select a Facility option from the DATA MENU.
- 4. A list of Facilities saved in the currently selected data directory appears on your screen.

If the desired facility is in the list use the up and down arrow keys to highlight it and press **Enter>** and you are done.

If the desired facility is saved in a different data directory press <**F2**>. The following prompt appears on your screen:

Source path:

Type the legal DOS path specification of the desired data directory and press **Enter**>.

Example:

The currently selected data directory is C:\GRITS500\SEMINAR5 and the desired data directory is C:\ABCLAND. At the source path prompt type:

C:\ABCLAND <Enter>

5. A pop-up list of all facilities saved in C:\ABCLAND appears on the screen. Use the up and down arrow keys to highlight the desired facility and press **Enter>**.

All modules in **GRITS/STAT 5.0** *except* **GRITS SAGE** will automatically use the selected facility in the data directory.

Use this procedure when selecting facility data to edit or analyze for all modules *except* **GRITS SAGE**. To select a data directory for work in **GRITS SAGE** follow the steps in section **2.5.4**.

2.5.4 Selecting a data directory for GRITS SAGE

GRITS SAGE was originally designed to be used with or without the rest of **GRITS/STAT**. For this reason **GRITS SAGE** has it's own data directory selection routine. Follow the steps below to select a data directory and Facility for a **GRITS SAGE** session.

- 1. Start **GRITS/STAT 5.0**. (See Section 2.4.)
- 2. Use the up and down arrow keys to highlight the GRITS SAGE option on the GRITS Main Menu and press **Enter**>.
- 3. Press <2> to select the Choose Directory option from the Data System Main Menu The dialog shown below in figure 9 appears on your screen.

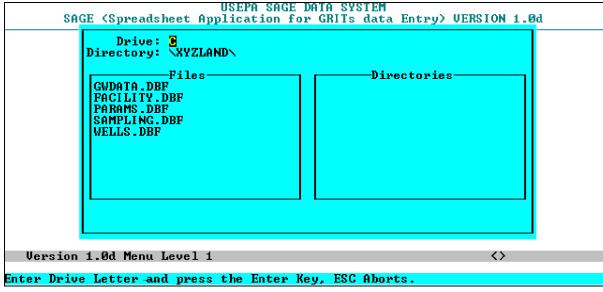


Figure 2.9. The Choose Directory dialog for **GRITS SAGE**.

4. Type the letter of the drive your data is on.

GRITS SAGE begins scanning the specified drive and builds a list of all directories on that drive. The list of directories appears in the Directories box. The currently selected **GRITS SAGE** data directory is highlighted.

5. Use the up and down arrow keys to highlight the desired data directory and press **Enter>**.

Note that directory selected in **GRITS SAGE** is only used by **GRITS SAGE**. To change the data directory for **GRITS Database**, **GRITS Utilities**, **GRITS Reporter**, **GRITS Advanced Reporter**, **GRITS Exporter** or the **GRITS Statistics** modules follow the steps in Section 2.5.3.

2.6 Converting Data from earlier versions of GRITS/STAT

This section provides instructions for converting data from **GRITS/STAT 3.x** or **GRITS/STAT 4.x** to **GRITS/STAT 5.0**. **GRITS/STAT 5.0** provides a conversion utility in the **GRITS Utilities** module for versions 3.x and 4.x.

- 1. Start **GRITS/STAT 5.0** (See Section 2.4)
- 2. Use the up and down arrow keys to highlight **GRITS Utilities** and press **Enter**>.
- 3. The VERSION CONVERT menu options will import data from earlier versions of GRITS/STAT to GRITS/STAT 5.0. The VERSION CONVERT option does not overwrite your original data files. It imports your existing data into a GRITS/STAT 5.0 data directory. Prior to using the VERSION CONVERT menu options, you must first create a blank set of GRITS/STAT 5.0 files to import your existing data into. Use the up and down arrow keys and highlight the Create Skeletons option of the UTILITIES MENU and press <Enter>.The pop-up shown in Figure 10 appears on your screen. Type the letter of the drive that you want the new directory.



Figure 2.10. Drive prompt for the Create Skeletons option of the Create Skeleton option of **GRITS Utilities**.

4. The pop-up shown in Figure 11 appears on your screen and prompts you for a directory name. This directory will contain the **GRITS/STAT 5.0** version of your existing **GRITS/STAT 3.x** or **GRITS/STAT 4.x** data. Specify a valid directory name and press **Enter>**.



Figure 2.11. Prompt for the new directory name.

Example: Existing **GRITS/STAT 4.2** data exists in the C:\ABCLAND directory. At the "Enter New Directory Name:" prompt type **ABCLAND5** and press **<Enter>**. A new directory:C:\ABCLAND5 is created for the **GRITS/STAT 5.0** version of the existing data in C:\ABCLAND.

5. The pop-up shown in Figure 12 appears on your screen and prompts you: Enter the FCID for your new facility. Rather than entering a *new* FCID, type the FCID of the Facility you are importing from an earlier version of **GRITS/STAT** and press **<Enter>**.

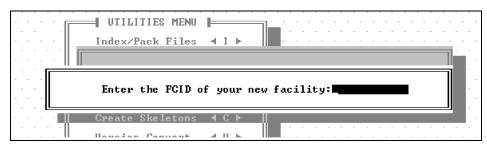


Figure 2.12. The FCID prompt.

- 6. The **ADD A FACILITY** (see Figure 7) dialog appears on your screen. Fill in all information that you have. Press **Page Down** to complete the **ADD A FACILITY** dialog.
- 7. Use the up and down arrow keys to highlight the **Version Convert** option of the **UTILITIES MENU**. The **VERSION CONVERT** menu will appear on your screen.
- 8. If you are updating from **GRITS/STAT** version 3.x highlight the **3.0 to 5.0** option of the **VERSION CONVERT** menu. If you are updating from GRITS/STAT version 4.x highlight the **4.1x to 5.0** option of the **VERSION CONVERT** menu. Both of the

resulting menus have identical options. Figure 13 shows the **CONVERT 4.1x TO 5.0** menu.



Figure 2.13. The CONVERT 4.1x TO 5.0 menu. Note that the CONVERT 3 TO 5.0 menu is identical.

9. Highlight the Source Path Change option and press **Enter**>. At the Source Path prompt that follows type the name of the directory that contains the data that you want to convert to **GRITS/STAT 5.0** and press **Enter**>.

NOTE: If you never set a data directory while using GRITS/STAT 4.x or GRITS/STAT 3.x, your data directory is probably the \GRITS\GRITDATA directory. The \GRITS\GRITDATA directory was the default data directory for all earlier versions of GRITS/STAT. The default data directory for GRITS/STAT 5.0 is \GRITS500\GRITDATA.

- 10. Highlight the Target Path Change option of the menu and press **Enter**>. At the resulting Target Path prompt type the directory that was created in steps 3 and 4 above and press **Enter**>.
- 11. Highlight the Convert Files option and press **<Enter>**.